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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/581,095	12/18/2000	Isaac Sadovnik	GCLL-115	2399

7590 08/02/2004

Mark G Lappin
 McDermott Will & Emery
 28 State Street
 Boston, MA 02109

EXAMINER

PALADINI, ALBERT WILLIAM

ART UNIT	PAPER NUMBER
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2125

DATE MAILED: 08/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/581,095

Applicant(s)

SADOVNIK, ISAAC

Examiner

Albert W Paladini

Art Unit

2125

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

There is no description of "generating signals" such as "each of said 2D objects," "nest signal," "primary tile signal," etc, as recited in claims 1 and 5.

The specification does not describe the "means for generating signals defining each of said 2D objects" or the "means for generating a nest signal representation of said objects" or any other means of generating the signals, recited in claim 3 Which elements in the specification performs these functions?

Appropriate correction and clarification are required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1

It is not understood what "generating signals defining each of said 2D objects" means. If the objects already exist, then they are already defined. Even if the objects did not exist, it is not understood how some sort of signal, such as an electrical signal, might define an object.

The same logic holds for the remaining signals in the claim. If a signal contains information about a physical structure, the form of the information must be explained. For example, "generating a primary tile signal representative of said two nests tiled" is not clear. The term "representative" does not clearly explain the kind of information contained in the signal.

Claim 3

It is not understood what "means for generating signals defining each of said 2D objects" means. If the objects already exist, then they are already defined. Even if the objects did not exist, it is not understood how some sort of signal, such as an electrical signal, might define an object.

The same logic holds for the remaining signals in the claim. If a signal contains information about a physical structure, the form of the information must be explained.

For example, "means for generating a primary tile signal representative of said two nests tiled" is not clear. The term "representative" does not clearly explain the kind of information contained in the signal.

Claim 4

The preamble recites, "The system according to claim 1." However, claim 1 is not a system, so that this claim does not further limit claim 1.

Claim 5

It is not understood what "generating an object signal defining each of said 2D objects" means. If the objects already exist, then they are already defined. Even if the objects did not exist, it is not understood how some sort of signal, such as an electrical signal, might define an object.

The same logic holds for the remaining signals in the claim. If a signal contains information about a physical structure, the form of the information must be explained. For example, "generating a nest signal representative of said objects" is not clear. The term "representative" does not clearly explain the kind of information contained in the signal.

Appropriate correction and clarification is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Turrini (5886902).

This rejection is made to the extent that the claims are understood by address elements recited and inducing how they operate cooperatively to achieve the objective of the invention.

In figures 4-5 Turrini discloses the data structures and flow process for transforming items from permutations into vector space. Turrini states on lines 5-10 in column 2 "As an advantage of vector spaces, the concept of distance between objects can easily be defined, and therefore, the task to minimize the distance between items can use many different optimization techniques. For example, in a continuous vector space, a derivative function or a gradient descent technique can readily yield one or more minima." Thus, Turrini utilizes a computer and the associated electrical signals to place objects in a coordinate system in a physical relationship where the distance between adjacent objects is minimized. Turrini does not explicitly utilize the term "nesting" or "method for generating signals."

It would have been obvious to one of ordinary skill in the art that the controlled arrangement of objects in close proximity in order to minimize distances between objects is "nesting." It would also have been obvious to one of ordinary skill in the art that the computer utilizes internal signals to implement the optimization scheme through the permutation process.

Relevant Prior Art

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Henderson (4794742) discloses a multi-conic shell and the method of forming it using hyperbolic parabolic structures and computing vertex angles in a manner, which results in the minimum use of materials.

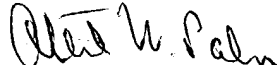
Golub (5050090) discloses an object placement and apparatus consisting of a microcomputer, which contains an object placement system module where the predetermined size of each object is stored in a computer library, and a stored algorithm exercises a sequential series of relative object arrangements until the desired arrangement with minimum spacing between objects is achieved.

Loh (5363309) discloses a computer system and method for positioning a cutting tool which can also be used to compute a minimal distance between three-dimensional objects which include space curves, arrange (or nest) geometrical objects (parts) on a workpiece so as to achieve the most efficient possible use of the workpiece, and position a cutter to two edges simultaneously.

Any inquiry concerning this communication or earlier communication from the examiner should be direct to Albert W. Paladini whose telephone number is (703) 308-2005. The examiner can normally be reached from 7:30 to 3:30 PM on Monday, Tuesday, Thursday, and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Leo P. Picard, can be reached on (703) 308-0538. The official fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


Albert W. Paladini
Primary Examiner
Art Unit 2125

July 23, 2004